

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A wavelength converting laser device, comprising:
a laser diode producing laser light and including an optical resonator having a pair of facing reflectors, including a reflecting surface having a shape reducing loss in the optical resonator, with regard to a specific horizontal transverse mode of ~~the~~ laser light, as compared to the loss in the optical resonator for other horizontal transverse modes; and
a wavelength converter for converting the laser light into a harmonic light.
2. (Currently Amended) The wavelength converting laser device of Claim 1, wherein ~~the shape of the reflecting surface of the pair of the facing reflectors~~ is substantially parallel to a wavefront of the laser light.
3. (Currently Amended) The wavelength converting laser device of Claim 1, wherein one of the pair of the facing reflectors includes a distributed-reflectance-Bragg-grating-reflector ~~integrally formed~~ integral with the laser diode.
4. (Currently Amended) The wavelength converting laser device of Claim 1, wherein one of the pair of the facing reflectors includes a coating ~~integrally formed on one a facet of the wavelength converter having a curved surface shape~~ that is convex toward a direction of outside of the optical resonator.
5. (Currently Amended) The wavelength converting laser device of Claim 1, wherein one of the pair of the facing reflectors includes a distributed-reflectance-Bragg-grating-reflector ~~integrally formed~~ integral with the wavelength converter.
6. (Currently Amended) The wavelength converting laser device of Claim 1, wherein the laser diode is a broad-area laser diode including an optical waveguide structure for controlling a vertical transverse mode of the laser light.
7. (Currently Amended) The wavelength converting laser device of Claim 1, wherein the wavelength converter includes an optical waveguide structure for controlling a vertical transverse mode of the laser light and for controlling a vertical transverse mode of the harmonic light.

8. (Original) The wavelength converting laser device of Claim 1, wherein the wavelength converter is a quasi-phase matching-wavelength converter having a periodically domain-inversed structure.

9. (Currently Amended) The wavelength converting laser device of Claim 8, wherein the ~~shape of the~~ periodically domain-inversed structure ~~is almost~~ has a shape substantially parallel to a wavefront of the laser light.

10. (Currently Amended) The wavelength converting laser device of Claim 1, wherein the wavelength converter includes a $\text{MgO}:\text{LiNbO}_3$ crystal having a z-axis of crystal ~~axis almost~~ substantially aligned with a polarization direction of the laser.

11. (Original) The wavelength converting laser device of Claim 1, wherein the wavelength converter is disposed within the optical resonator.

12. (Original) The wavelength converting laser device of Claim 1, wherein the optical resonator, the laser diode, and the wavelength converter are integrated.

13. (Currently Amended) The wavelength converting laser device of Claim 1, further comprising a reflector, for reflecting the harmonic light, disposed between the laser diode and the wavelength converter.

14. (Currently Amended) The wavelength converting laser device of Claim 1, further comprising transverse mode converting means for reducing mode mismatching between a vertical transverse mode of the laser light in the laser diode and a vertical transverse mode of the laser light in the wavelength converter.

15. (Currently Amended) The wavelength converting laser device of Claim 1, further comprising a temperature control means for controlling temperature of the laser diode and temperature of the wavelength converter.

16. (Currently Amended) The wavelength converting laser device of Claim 1, wherein a ratio of a wavelength-shift to temperature change at a lasing wavelength of the laser light of the laser diode is ~~almost~~ substantially the same as a ratio of a wavelength-shift to temperature change at a phase matching wavelength of the laser light of the wavelength converter.

17. (Currently Amended) A display device, comprising:
a laser diode producing laser light and including an optical resonator having a pair of facing reflectors with a reflecting surface ~~whose~~ having a shape ~~reduces~~ reducing loss in the optical resonator, with regard to a specific horizontal transverse mode of ~~a~~ the laser light, as compared to the loss in the optical resonator for other horizontal transverse modes; and
a wavelength converter ~~configured to convert~~ for converting the laser light into a harmonic light, wherein the laser diode and the wavelength converting laser device are a light source for generating an image.

18. (Currently Amended) The display device of Claim 17, wherein the light source for generating an image is a light source for ~~of~~ green light ~~among three elementary colors~~.

19. (Currently Amended) The display device of Claim 17, wherein the light source for generating an image is a light source for ~~of~~ blue light ~~among three elementary colors~~.

20. (Currently Amended) The display device of Claim 17, further comprising~~a~~ a liquid crystal material as optical modulating means for generating an image.

21. (Currently Amended) The display device of Claim 17, further comprising~~a~~ digital reflecting means as optical modulating means for generating an image.